

1/23

**Name: IMX4**

CCGGTAAGTAAACAGTCAGAAAATTAGCATGAAAGCAGTTTAGCATTGGGAGGGAAGCACA  
GATCTCTAGAGCTGTCCTGTCGCTGCCCAGGATTGACCTGTGTGTAAGTCCCAATAAACT  
CACCTACTACCAAAAA

**FIGURE 1**

2/23

**Name: IMX 10**

GAATTTAATACGACTCACTATAGGGAATTTGGCCCTCGAGGCCAAGAATTTCGGCACGAGG  
CAACAACAACAACAAAAAACTGAACATCTCCATATTACTGACACCCAATTCAAGAAA  
CAAATATTACAGCCCCCTTCCAGGATATTCCTGGGGTCTCTTCCATCTCTACTAACCCCT  
GACTACAAACAGCCTCCACCTATTTTACCTGACATTGTACTTTATGAAAGCAGCAGTTCT  
CAGATGGGGCTATTTTGCCCCCTGGGGACATTAGGGAGTATCTGGAGACACTGAGGGTTG  
TGTCTACTTGGGGGGAGTTGTGTTACTGTCATCCAGTGAGTCCAGGGATCCAGGGATGCCG  
CTCAACATCCTGAAATGCACAGGGAACCCCCACACATAGAACAGAGAAATTGCTGAGCCA  
AAATGTCAGCAGTGTACAGCTGACACCCCTGATATACACACTATCACACAGTATCTGCTC  
TTTCGGGCTCAGGATCTTTTTTCAATTCTAATCATCTCATAGGAAACAGAAATGTCATTTAG  
AGGTAGGTACAGTCCACAACAAAGAAGAACCTGAGTTTTTTTTTTTTTTTAAATCAGCCT  
GGTGCCTTTAGAGCTAGGATTTAGTTTCTATTCTTTCTGTCTCATTTTTCAAGTGATT  
TTCTTCAAATGGCATCTACTGGGCTCAAGAACTGGAGATCCCCACAAAGCTGAGATT  
ATGGGAATTTTGTACACACCCACACAGGTATACACTTCCATTTACATGCAGACATCCACC  
CACAGATACACACATCCGGAGACCAAGACAGAACGCAAACCTGCCCCATAAAAGCACGGTT  
CCCCAACAGGAGAAACGCACCATTCACTCCAGGGAGGTATCTATTTGTTTAATTGAGCC  
TCTGATAGTCAGGCTGTTGCCAAGCCCAGCTCTGAAACTCTTCCCCTCTAGGAAAGAAAG  
ATGGATTTTTTTCTTTACTCAAGAATATAGATCTAAAAAAGTTGGCGG  
CCGCAAGCTTATTCCCTTTAGTGA

FIGURE 2

3/23

Name: IMX 21

GGTACCGGGCCCCCCTCGAGGTGACGGTATCGATAAGCTTGATATCGAATTTCGCGGCC  
GCTGAGAAATTAACTCCCCGGGGCCCGGGGTTGACTGCGCTGCCCTGGGGCCGGAGGTCTT  
CTCCGGCCAGGGAGCCTGTGGGAAGGGGCTCGAGCGGGCCAGGGCCAGGCGAGGGCCGGGG  
GGGCGGGGGGGTTAGGGGACCGCGGGGGCTACTCTTGGGAGCGCCCCCTGTCCGGCTGGCTGC  
GCGCCGGTTTTTAAATAGCATCTTTCGGACTTGTCTTCGCGGCCCCAGTCCCCGACCTCGG  
CGCTGCCCTGGGCTCCTGCAGCCTCTCCCTAAGTCTTCTCCAAACGACCACCTCACGGATT  
CCTTATGGATCGCAGCTCCAAGAGGAGGCGAGGTGAAGCCTTTGGCAGCTTCTCTGCTGGA  
AGCTCTTGATTATGATAGTTCAGATGACAGTGATTTTAAAGTTGGAGATGCCCTCAGGACT  
CGCTGATTCTTGAGAAGAGTCAAAACTGGAGCTCTCAAAAAATGGACCATAATTCTGATTT  
GCTGTGTTTTGTCTGGGAGATAATAGTGAGGACGCTGATGAAATAATTCAGTGTGACAATT  
GTGGCATTACAGTCCATGAAGGTTGTTATGGAGTTGATGGAGAGAGTGACTCTATTATGA  
GTTTCAGCTTCTGAAACTCCACTGAACCTTGGTTTTGTGATGCCCTGTAAATGTGGTGT  
CTCCTAGCTGTGAAGTGTGTCCTAATCAGGATGGAATTTTCAAGGAGACAGATGCTGGAA  
GATGGGTTTATATTGTTTTGTGCCCTGTATGTTCTTGAGTAGCCTTTTGGAGATATTGACA  
AATTACGACCAGTAACACTAACGGAAATGAAGTATTCCAAATATGGTGCCAAGGAGTGTA  
GCTTTTGTGAAGACCCCTCGCTTTGCTAGAACTGGGGTTTGCATTAGCTGTGATGCAGGGA  
TGTGCAGAGCCTATTTCCATGTGACCTGTGCTCAAAAGGAAGGTCTGCTTTCAGAGGCAG  
CGGCGGAAGAGGATATAGCAGATCCATTCTTTGCTTATTGTAAAGCAACATGCAGATAGGT  
TAGACAGAAAGTGGAAAGAGAAAAAACTACTTGGCTCTACAGTCCCTATTGTAAAATGTCTT  
TGCAAGAGAGAGAGAAGCAACTATCACCAGAAGCACAGGCAAGGATCAATGCCCGGCTTC  
AGCAGTATCGTGCCAAAGCAGAACTAGCTCGATCTACCAGACCCCGAGGCTGGGTCCAA  
GGGAAATATTGCCAGACCACTCACCAGCAGTGCTTCAGCTATTCGTAAACTTATGCGGA  
AAGCAGAACTCATGGGATCAGTACAGATATCTTTCCAGTGGACAATTTCAGATACTAGTT  
CTAGTGTGGATGGAGGAGAAAAACATAAGCAACCAGCTCTCACTGCAGATTTTGTGAATT  
ATTATTTTGAAGAAATATGCGCATGATTCAAATTCAGGAAATATGGCTGAACAAAAGA  
ATATAAAAGATAAATTAGAGAATGAACAAGAAAAGCTTCATGTAGAATATAATAAGCTAT  
GTGAATCTTTAGAAAGAACTACAAAACCTGAATGGAAAACCTCGAAGTGAAGGACAAAGGA  
TATGGGCTTTACTAGGCAGAAATCACAGGGCAGAAAGTTGAATATACCGGCAATTTTGGGAG  
CACCCAAGGAGAGAAAACCAAGTAAAAAAGAAGGAGGACACAAAAGACATCTACTCTTC  
CTGCAGTACTTTATAGTTGTGGGATTTGTAAAGAAGAACCATGATCAGCATCTTCTTTTAT  
TGTGTGATACCTGTAAACTACATTACCATCTTGGATGTCTGGATCCTCCTCTTACAAGGA  
TGCCAAGAAAGACCAAAACAGTTATTGGCAGTGCTCGGAATGTGACCAGGCAGGGAGCA  
GTGACATGGAAGCAGATATGGCCATGGAAACCCCTACCAGATGGAACCAACGATCAAGGA  
GGCAGATTAAGGAACCAAGTGAAATTTGTTCCACAGGATGTGCCACCAGAACCCCAAGAGA  
TTCCGATAAGAAAACAGAGAACCAGAGGACGAAAACGAAGCTTCGTTCTCTGAGGAAGAAA  
AACATGAGGAAAGAGTTCTTAGAGAGAGAAGACAAAGACAGTCTGTGTTGCAAAAGAGGC  
CCAAGGCTGAAGATTTAAGAACTGAATGTGCAACTTGCAAGGGAAGTGGAGACAATGAAA  
ATCTTGTGAGGTGTGATGAATGCAGACTCTGCTACCATTTTGGCTGTTTGGATCCTCCTT  
TGAAAAAGTCTCTTAAACAGACAGGCTACGGATGGATATGTGAGGAATGTGATTCTTCAT  
CTTCCAAGGAAGATGAAAATGAAGCTGAAAGAAAAAATATATCTCAGGAGCTCAACATGG  
AACAGAAAAATCCAAAGAAATAAAAGATTTTCTGTAGTGTTTTTGAAAAGTTTGCAGCTT  
ATGTAATAGCAGATAAAATTTCTAATTGTAAAATGTAAATGAGCGGCCCGCGAATTCCT  
GCAGCCCCGGGGGATCCACTAGTTCTAGAGCGGCCCGCCACCGCGGTGGAGCTCCAGCT

FIGURE 3

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Name: IMX 28

ATTAACCCCTCACTAAAGGGGAACAAAAGCTGGAGCTCCACCGCGGTGGCGGCGCGCTCTAGA  
ACTAGTGGATCCCCCGGGCTGCAGGAATTCCGGCACGAGGTGCGCGGCTGCAACGGCAGCC  
GCGGGAAGCTCGGGCCGGCAGGGTTTCCCCGCACGCTGGCGGCCAGCTCCCGGGCGGGAG  
GCCGCTGTAAGTTTCGCTTTCCATTTCAGTGGAAAACGAAAGCTGGGCGGGGTGCCACGAG  
CGCGGGGGCCAGACCAAGGCGGGGCCCGGAGCGGAACTTCGGTCCCAGCTCGGTCCCCGGCT  
CAGTCCCCGACGTGGAACCTCAGCAGCGGAGGCTGGACGCTTGCATGGCGCTTGAGAGATTG  
CATCGTGCCTGGCTCACATAAGCGCTTCCTGGAAGTGAAGTCGTGCTGTCCTGAACGCGG  
GCCAGGCAGCTGCGGCCTGGGGGTTTTGGAGTGATCACGAATGAGCAAGGCGTTTTGGGCT  
CCTGAGGCAAATCTGTCAGTCCATCCTGGCTGAGTCCTCGCAGTCCCCGGCAGATCTTGA  
AGAAAAGAAGGAAGAAGACAGCAACATGAAGAGAGAGCAGCCCAGAGAGCGTCCCAGGGC  
CTGGGACTACCCCTCATGGCCTGGTTGGTTTACACAACATTGGACAGACCTGCTGCCTTAA  
CTCCTTGATTTCAGGTGTTTCGTAATGAATGTGGACTTCACCAGGATATTGAAGAGGATEAC  
GGTGCCCAGGGGAGCTGACGAGCAGAGGAGAAGCGTCCCTTTCCAGATGCTTCTGCTGCT  
GGAGAAGATGCAGGACAGCCGGCAGAAAGCAGTGCGGGCCCCTGGAGCTGGCCTACTGCCT  
GCAGAAGTGCAACGTGCCCTTGTTTTGTCCAACATGATGCTGCCCAACTGTACCTCAAAC  
CTGGAACCTGATTAAGGACCAGATCACTGATGTGCACTTGGTGGAGAGACTGCAGGCCCT  
GTATATGATCCGGGTGAAGGACTCCTTGATTTGCGTTGACTGTGCCATGGAGAGTAGCAG  
AAACAGCAGCATGCTCACCCCTCCCACCTTTCTCTTTTTGATGTGGACTCAAAGCCCCTGAA  
GACACTGGAGGACGCCCTGCACTGCTTCTTCCAGCCCAGGGAGTTATCAAGCAAAGCAA  
GTGCTTCTGTGAGAACTGTGGGAAGAAGACCCGTGGGAAACAGGTCTTGAAGCTGACCCA  
TTTGCCCCCAGACCCTGACAATCCACCTCATGCGATTCTCCATCAGGAATTCACAGACGAG  
AAAGATCTGCCACTCCCTGTACTTCCCCCAGAGCTTGGATTTTCAGCCAGATCCTTCCAAT  
GAAGCGAGAGTCTTGTGATGCTGAGGAGCAGTCTGGAGGGCAGTATGAGCTTTTGTGCTGT  
GATTGCGCACGTGGGAATGGCAGACTCCGGTCATTACTGTGTCTACATCCGGAATGCTGT  
GGATGGAAAATGGTTCTGCTTCAATGACTCCAATATTTGCTTGGTGTCTGGGAAGACAT  
CCAGTGTACCTACGGAAATCCTAACTACCACTGGCAGGAAACTGCATATCTTCTGGTTTA  
CATGAAGATGGAGTGCTAATGGAAATGCCCAAACCTTCAGAGATTGACACGCTGTCATT  
TTCCATTTCCGTTCCCTGGATCTACGGAGTCTTCTAAGAGATTTTGCAATGAGGAGAAGCA  
TTGTTTTCAAACATATAACTGAGCCTTATTTATAATTAGGGATATTATCAAAATATGTA  
ACCATGAGGGCCCCTCAGGTCCTGATCAGTCAGAATGGATGCTTTTACCAGCAGACCCGGC  
CATGTGGCTGCTCGGTCCTGGGTGCTCGCTGCTGTGCAAGACATTAGCCCTTTAGTTATG  
AGCCTGTGGGAACCTTCAGGGGTTCCAGTGGGGAGAGCAGTGGCAGTGGGAGGCATCTGG  
GGGCCAAAGGTTCAGTGGCAGGGGGTATTTTCAGTATTATACAACTGCTGTGACCAGACTTG  
TATACTGGCTGAATATCAGTGCTGTTTTGTAATTTTTCACTTTGAGAACCAACATTAATTC  
CATATGAAAAAAAAAAAAAAAAAAAAA

FIGURE 4

5/23

**Name: IMX 32**

GCGGCCGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGGAATTGCGGCCGCTAAATGAA  
CTCCCATAGAGTCTAGACACCATAGAACTCATACCAGGAATCACAAAGTCTCTAAATTT  
CCAAAGTTAACTGGAAATATTACAACTGCAGAATAATTCCAGGCCAAAATATGTTAAAT  
TCATAACATGATGTATATCAAAGGAAAAAAGGACATGTGGAAATGACACATTATCTTCAG  
TGTATAAAATATTCATTTATGTGAAGTTTCTTGGAAGGCTACACTACTATTACTGGTTT  
CCGTCTGATGTTTGAGATCTGTTGATTTTATGCTTTTCTTACAGGCCTTTTCATTATGATC  
TTTGGAAGGAATCAATAAAATGATAGGGCCTACTTCATTAGGTGTGGTTCATTCCCTATT  
CATGCTCCCTGGAAGAACAAGAATGCTGAATTTTGAAATTTAATATTGTATGAATTAGCA  
TCAGGGAGAGGTGGAGAAAAATACAAAACCTAAAAGTCATGCTTATTGTGTTTCAGTGTGCC  
CTTCTCCAGAGGGGCCACTGGCTTATAGGAAAGGATTGCTGCTCTACCAGTTGACCAGGAG  
ATGGCACGCCAGGACATTAAGACACTGGAGTTTTGTTTCGTTTTTTTTTTTTTTTTTTGAG  
ATGGAGTCTCGCTCTCTTGACAGGCAGGAGTACAGTGGTGGCATCTCGGCTCACTGCAAA  
CTCCGCCTCCCGGGTTCAAGTGATTCTCCTGCCTCGGCCTCCCGAGTAGCTGGGACTACA  
GGCGTGTGCCACCACCCCCAGCTAACTTTTGTATTTTATAGTAGAGACAGGGTTTCACCA  
GTTGGCCAGGATGGTCTCAATCTCTTGACCTCATGATCCGCCCCGCTCCGCCTTCCAAAG  
TGCTGGGATTACAGGCGTGAGCCAGTGTGCCCCGGCCGACACTGGGCTTTTTATGAGAGTG  
ACAGATTACTAGGACCTCATTATGTGGTAGAAGTAATGTAGGGGAAATGGCGATTATCTT  
TTTTTAAAAGCAATAGCTGTTGTATATCAATGATAAATGAAAAATTAGTTATTCTTGTA  
ATTGAAGAAAGAATGGTTATCATAGAGGGTAGTTCAAGTAAAAGAACCAGGGCTGGGTGT  
GGTGGCTCACGTTCTGTAATCCCTGTACTTTGGGAGGCCAAGGCAGATGGATCTCTTGAG  
GCCAGGAGTTCGAGACCAGCCTGACCAACATGGCAAACCGTGTCTCTACAAAAAATACA  
AAAATTAGCCGGACATCGTGGTAGATGCCTGTAGTCTCAGATATTCAGGAGACCGAGGGG  
AAAATCACTTGAACCCGGGGGACGGAGGTTGCAGTGAGCTGAGATCGCACCACTGCTCGC  
CAGCCTGGGCAACAGAGTGAGACTCTGCCTCAAAAAAAAACCAAACCAAACCAAAGAACC  
AGAATAGCATGTGCACATATACACAGACGTTTCACAACTGGCATTATGTTTTGCTACTGT  
TTTATTTACAATGTATCACAAGTTTTATGCTTTAATAAAATTTAATCATAACTTCAAAAA  
AAAAAAAAAAAAAAAAAGCGGCCGCGAATT

FIGURE 5



6/23

Name: IMX 39

GAATTCGGCACGAGGAAAACATTTGCCCTTGCAGAAGATCACCTTAGTTCTTCCTCGG  
AAGAGTATCAGAAGGTCTGGAACCTCTTTAACCGCACGCTGCCTTTCTACTTTGTTTCAGA  
AGATTGAGCGAGTACAGAACCTGGCCCTCTGGGAAGTCTACCAGTGGTGCGTTGGGGCTC  
GCTCTTGGTGGGCTGGTGACTCTGTCCCTTCACACCACTGGCTGGTTGCCACATGTGGCC  
CGGGTTTCCAGGAAAAGCAGAGCGGCAGTTAGGGCTGCCATGTGCTGGGAGCTGTGTGTC  
TGCTCTCCTTCGTCCGCTCCCCCAGGGCAGTGTGGTAGCACATCCCATTGTAGAGATGAG  
GGCACCGAGGCTTCCTGGAGCATACCACCTGGTCCCGTTTCATGAGTGGTGGCAAAGCTAG  
CACTCTCACTTGTCCATTCTGCCTTCCTGGAGACCAGTGGGATGGGTGAGTACAGCCAC  
CACACCATTAGCCCCAGGAACATAAGGCTGTGGCTAGACAGCAGGGGTCTCAGGTTTCATA  
CATGAGGACTGGCTTGTCTTGAGCACCCACTCACCTGTCTATGTGGGGAGGAATCCTAC  
AATAGGTCACCATGGCAGGCTGGGTCTTGCTGACCTGTCCCCAGATGGGGTTGGGGTAGT  
GTAATGTGTACTCTGTGCACAGTGATGAAGTCTGGGAATGGGAGAGGGGAGAAGGATGGG  
CACCCACTGACCAGCAGCCTGAAAATTCCTACAGCATCCCAGGGCTCAGCTCCATGCAGG  
AGCAAGGTGGGGGTGGGGTTGGGGGAAATGTTACCCATTTTCCAAGGGCTGCTCTGCTTT  
TGGAGTCCAGGGAACCGCTGCTGTCTGGAGCTGTGGAGGGAGGGTTTTTCACCCAGCTCCC  
ACGATCCCCCTTCTTTTCCACACCCTGGCTTGTGGCTGGAGCCTTACAGGCCTAGTCAGG  
GTAGCCTGTGACCTGCGTCTCTTGGTCCCAGGACACTTTTGGAAATTTTGGAAAAATGTGT  
TGTTTTTGCATCAGGCCGGCTGTATTTGGTGGCCGGCACACTCTGCCCCCAGCACACATTC  
TTCTGTGATTCTAGGCAAAAAGGACAGATGCAGAAGCAGAACGGAGGGAAGGCCGTGGAC  
GAGCGGCAGCTGTTCCACGGCACAGCGCCATTTTTTGTGGACGCCATCTGCCAGCAGAAC  
TTTGA CTGGCGGGTCTGTGGTGTTCATGGCACTTCCTACGGCAAGGGGAGCTACTTTGCC  
CGAGATGCTGCATATTCCCACCACTACAGCAAATCCGACACGCAGACCCACACGATGTTT  
CTGGCCCCGGGTGCTGGTGGGCGAGTTCGTCAAGGGGCAATGCCTCCTTTGTCCGTCCGCCG  
GCCAAGGAGGGCTGGAGCAACGCCTTCTATGATAGCTGCGTGAACAGTGTGTCCGACCCC  
TCCATCTTTGTGATCTTTGAGAAACACCAGGTCTACCCAGAGTATGTCATCCAGTACACC  
ACCTCCTCCAAGCCCTCGGTACACCCCTCCATCCTGCTGGCCTTGGGCTCCCTGTTTCAGC  
AGCCGACAGTGAGCGCACAGGAGTGTTCCAGGCCTTTCACCTGCTCTGCCTTGAAATGGC  
TATTTGGGCCTTTCTTTTCTTTTTTAAACAGAACTTTTAATGAAGTGTCTCTTAACAT  
TGACCTCTCAATGAAGTTATGTTCTTAATCTCTTGCTAATAATGATTTTTTACTTTTAAGT  
CACTTTTGGGTTCACTAGTGGATTAACCAGAAGTGATTGTAGTTGAGTCCAGTTTTGCTT  
TTTAATAATGTGTTGAAGTTTTAGTTTTTACTCTTTGTTGACTTTGCTGCTTATTGGCAC  
CAGGGACAGAGTTTCTAGATACAATTTTATGGATTGGTTTTTAATTTTTATGAGTTTGTCT  
CTGCAGTGATTCCGTTTCTCAGAGTCTCATGGCATCATAGTTTTTCCAGAATGACACAGT  
AGCCACCGGTGGATGACAGCCCACGGGCGGCACAGTCACTTCTGCCTGTTGCTCTGACAC  
CAACCCAGGCAGCTCTGCTGTGGCTTCTCCTGGGCTCTGGCATTAGTTGGTCTGTGTCA  
ATTGTCAGAACAGGTGGCTGCTGTGTGGTGCCATCGAGTCCCTGCTGGTTCCCCCTTGTC  
TGGGAGGGTCACCCATTGCCCAAGGAAGTGCATCCACCTGGCAGGTGACCTGGAGGAGTA  
GCTTCCCCGAGGACCCCCAGGCTTGGCCTGTGATTGCGCAAACCCACATTTCTTAAGCAC  
ACTGGACACCCTTCGAGTGTGGGTTTTTAACATCCCTGTGAGATTGAATACTTGTGCCACA  
CATGTCACAAAAGAGTATGGAAATAAAAGAAAATTTATCCGAAAAAATAAATAAATAA  
GAGCGGCCGC

FIGURE 6

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**Name: IMX 40**

CCGGTCTATGGCATTAAACCCTCACTTAACTTTTCAGCCTGCCAGCCTGCCCTATGGATT  
CGGACTTGCCAGCCACACAATTCCTTAAAATAAATCTCTCCGTCTCATAAAAA

**FIGURE 7**

8/23

**Name: IMX 42**

CCGGGAGCTGTGAAGGGAACGTGAGGGGGCGGCGTAGTGGAGACCCACGGCAGGCCTGAA  
GAAGAGCGGCGGCCGAGCCCGCCTTCCCTGCACCATGCTCATAGAGGATGTGGATGCCCT  
CAAGTCCTGGCTGGCCAAGTTACTGGAGCCGATATGTGATGCTGATCCTTCAGCCTTAGC  
CAACTATGTTGTAGCACTGGTCAAGAAGGACAAACCTGAGAAAGAATTAAAAGCCTTTTG  
TGCTGATCAACTTGATGTCTTTTTACAAAAAGAACTTCAGGTTTTGTGGACAACTATT  
TGAAAGTCTCTATACTAAGAACTACCTTCCACTTTTGGAACCAGTAAAGCCTGAGCCAAA  
ACCACTAGCCCAAGAAAAA

**FIGURE 8**



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**Name: IMX 44**

ATGGATAGTCGCCACACCTTTGCCCCCTGCTGCGATGACCCTGTGCGCCACTTCTGCTGTTT  
CTGCCACCGCTGCTGCTGCTGCTGGACGTCCCCACGGCGGGCGGTGCAGGCGTCCCCCTCTG  
CAAGCGTTAGACTTCTTTGGGAATGGGCCACCAAGTTAACTACAAGACAGGCAATCTATAC  
CTGCGGGGGGCCCTGAAGAAGTCCAATGCACCGCTTGTCAATGTGACCCTCTACTATGAA  
GCACTGTGCGGTGGCTGCCGAGCCTTCCTGATCCGGGAGCTCTTCCCAACATGGCTGTTG  
GTCATGGAGATCCTCAATGTCACGCTGGTGGCCTACGGAAACGCACAGGAACAAAATGTC  
AGTGGCAGGTGGGAGTTCAAGTGCCAGCATGGAGAAGAGGAGTGCAAATTCAACAAGGTG  
GAGGCCTGCGTGTTGGATGAACTTGACATGGAGCTAGCCTTCCTGACCATTGTCTGCATG  
GAAGAGTTTGAGGACATGGAGAGAAGTCTGCCACTATGCCTGCAGCTCTACGCCCCAGGG  
CTGTGCGCCAGACACTATCATGGAGTGTGCAATGGGGGACCCCGGCATGCAGCTCATGCAC  
GCCAACGCCCAGCGGACAGATGCTCTCCAGCCACCACACGAGTATGTGCCCTGGGTCAAC  
GTCAATGGGAAACCCTTGGAAGATCAGACCCAGCTCCTTACCCTTGTCTGCCAGTTGTAC  
CAGGGCAAGAAGCCGGATGTCTGCCCTTCCTCAACCAGCTCCCTCAGGAGTGTTTGCTT  
AAGTGATGGCCGGTGAGCTGCGGAGAGCTCATGGAAGGCGAGTGGGAACCCGGCTGCCTG  
CCTTTTTTTTTCTGATCCAGACCCTCGGCACCTGCTACTTACCAACTGGAAAATTTTATGC  
ATCCCATGAAGCCCAGATACACAAAATTCCACCCCATGATCAAGAATCCTGCTCCACTAA  
GAATGGTGCTAAAGTAAACTAGTTTAAATAAGCAAAAAAAAAAAAAAAAAAATTCCTGCG  
GCCGC

**FIGURE 9**

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**Name: IMX 56**

CCGGGATATCGCCACTGCACTCCAGCCTGGGTGACGGAGCGAGACTCCGTCTCAGAAAAA

**FIGURE 10**

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Name: IMX4  
MHWEEAQISRVLSPRIDLVCVSPNKLTYSPK

FIGURE 11

12/23

**Name: LMX 10**

MEFNTTHYREFGPRGQEFGRQOQOQKTEHLHITDTQFKKQNITAPSRIFLGSLPSLLT  
PDYKQPPPISPDIVLYESSSSQMGLFCPLGTLGSIWRH\*

FIGURE 12

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**Name: IMX 21**

MIVQMTVILKLEMPQDSLILEKSQNWSSQKMDHILICCVCLGDNSEDADEIIQCDNCGIT  
VHEGCVGVDGESDSIMSSASENSTEPWFCDACKCGVSPSCELCPNQDGI FKETDAGRWH  
IVCALYVPGVAFGDIDKLRPVTLTENNYSKYGAKESFCEDPRFARTGVCISCDAGMCRA  
YFHVTCQAQKEGLLSEAAAEEDIADPFFAYCKQHADRDRKWKRRKNYLALQSYCKMSLQER  
EKQLSPEAQARINARLQOYRAKAELARSTRPQAWVPREKLPRPLTSSASAIRKLMRKAEL  
MGISTDIFPVDNSDTSSSV DGRRKHKQPALTADFNYYFERNMRMIQIQENMAEQKNIKD  
KLENEQEKLHVEYNKLCESLEELQNLNGKLRSEGQGIWALLGRITGQKLNIPAILRAPKE  
RKPSKKEGGTQKTSTLPAVLYSCGICKKNHDQHLLLLCDTCKLHYHLGCLDPPLTRMPRK  
TKNSYWQCSECDQAGSSDMEADMAMETLPDGTKRSRRQIKEPVKFVPQDVPPEPKKIPR  
NTRTRGRKRSFVPEEEKHEERVPRERRQRQSVLQKKPKAEDLRTECATCKGTGDNENLVR  
CDECRLCYHFGCLDPPLKKS PKQTGYGWICQECDSSSSKEDENEAERKNISQELNMEQKN  
PKK

FIGURE 13

14/23

**Name: IMX 28**

MSKAFGLLRQICQSILAESSQSPADLEEKKEEDSNMKREQPRERPRAWDYPHGLVGLHNI  
GQTCCLNSLIQVFVMNVDFTRILKRITVPRGADEQRRSVPFQMLLLLEKMQDSRQKAVRP  
LELAYCLQKCNVPLFVQHDAQAQLYLKLWNLIKDQITDVHLVERLQALYMIRVKDSLICVD  
CAMESSRNSSMLTLPLSLFDVDSKPLKTLEDALHCFFQPRELSSKSKCFCENCCKKTRGK  
QVLKLTHLPQTLTIHLMRFSIRNSQTRKICHSLYFPQSLDFSQILPMKRESCDAEEQSGG  
QYELFAVIAHVGMADSGHYCVYIRNAVDGKWFCFNDSDNICLVSWEDIQCTYGNPNYHWQE  
TAYLLVYMKMEC\*

FIGURE 14



15/23

**Name: IMX 32**

MAAALLPSGQNWHTGFILESNLTNVMKVVRLEFIKCPCLWGHEKIHTESIKNVLNMERPL  
SNSDVMKVVF\*

**FIGURE 15**

16/23

**Name: IMX 39**

MCTLCTVMKSGNGRGEKDGHP LTSSLKIPTASQGSAPCRSKVGVGLGEMLP IFOGLLCFW  
SPGNRCCLELWREGFHPAPT I PLLFHTLACGWSLTGLVRVACDLRLLVPGHFWNFGKMCC  
FASGRLYLVAGTLC PQHTFFCDSRQKGQMQKQNGGKAVDERQLFHGTSAI FVDAICQONF  
DWRVCGVHGTSYGKGSYFARDAAYSHHYSKSDTQTH TMFLARVLVGEFVRGNASFVRPPA  
KEGWSNAFYDSCVNSVSDPSIFVIFEKHQVYPEYVIQYTTSSKPSVTPSILLALGSLFSS  
RQ

/ **FIGURE 16**

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Name: IMX 40

MPVYGINPHLTFQPASLPYGFRTCQPHNSLK\*

FIGURE 17

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**Name: IMX 42**

MLIEDVDALKSWLAKLLEPICDADPSALANYVVALVKKDKPEKELKAFCADQLD::FLOKE  
TSGFVDKLFESLYTKNYLPLLEPVKPEPKPLAQEK\*

FIGURE 18

19/23

**Name: IMX 44**

(MD) SRHTFAPAAMTLSPLLLFLPPLLLLLLDVPTAAVQASPLQALDFFGNGPPVNYKTGN  
LYLRGPLKKSNAPLVNVTLYYEALCGGCRAFLIRELFPTWLLVMEILNVTLPYGNAQEQ  
NVSGRWEFKCQHGEEECKFNKVEACVLDELDMELAFITIVCMEEFEDMERSLPLCLQLYA  
PGLSPDTIMECAMGDPGMQLMHANAQRTDALQPPHEYVPWVTVNGKPLEDQTQLLTLCQ  
LYQGKKPDVCPSSSTSSLRVCFK

**FIGURE 19**

20/23

Name: IMX 56  
MPGYRHCTPAWVTERDSVSEK\*

FIGURE 20



Query: 588 TAAQAAAGCTTCGCTGCCCTTGCANATGG 618  
 AAGAA GCT CCCTGCCCTTGC ATGGG  
 Subject: 419 CAAGAAAGCT-CCCTGCCCTTGC-QATGGG 447

22/23

Match to exons on PAC clone that carries Apol gene:

>emb|282215|HS6802 Homo sapiens DNA sequence from PAC 6802 on chromosome 22.

Contains apolipoprotein L, myosin heavy chain, ESTs, CA repeat, STS

and GSS, complete sequence [Homo sapiens]

**Length = 139,389**

**Match of Query: 2**

ACGAGCTGTCTGGTTATTATACAGAGGCATAACTGGAGGTGGGATCCACACAGCTCAGAA 61

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

**Subject: 21414**

AGGACCTGTCTGGTTATTATACAGACGCATACTGGAGGTGGGATCCACACAGCTCAGAA 21473

Query: 62 CAGCTGGATCTTGCTCAGTCTCTGCCAGGGGAAGATTCTTGG 104

|||||  
Sbjct: 21474 CAGCTGGATCTTGCTCAGTCTCTGCCAGGGGAAGATTCTTGG 21516

**Query: 103**

GGAGGAGGCCCTGCAGCGACATGGAGGGAGCTGCTTTGCTGAGAGTCTCTGTCTCTGCA 162

GGAGGAGGCCCTGCAGCGACATGGAGGGAGCTGCTTTGCTGAGAGTCTCTGTCTCTGCA

**Subject: 23232**

GGAGGAGGCCCTGCAGCGACATGGAGGGAGCTGCTTTGCTGAGAGTCTCTGTCTCTGCA 23291

**Query: 163 TCTGGATGAG 172**

**TCTGG TGAG**

**Subject: 23292 TCTGG-TGAG 23300**

Query: 121 ACATGGAGGGAGCTGCTTTGCTGAGAGTCTCTGTCTCT-  
CTGCATCTGGATGAGTGCACCT 179

A ATGG G T CT TG T A TCTC TC T C CA C

GGATGAGTGCACTT

**Subject: 25333 AGATGGCTGCCCGTCCTCTGATTATCTTCTCC.**

TCATACCCCAACAGGATGAGTGCACTT 25391

Query: 180 TTCCTTGTNTTNGNANTNANGNCAGAGGAAGCTCGAGCGAGG 221

TTCCTTG T T G A T A G CAGAGGAAGCTGGAGCCGAGG

Subject: 25392 TTCTTGGTGTGGGAGTGAGGGCAGAGGAAGCTGGAGCGAGG 25433

**Query: 217**

CGAGGGTGCAACAAACGTTCCAAGTGGGACAGATACTGGAGATCCTCAAAGTAAGCCCC 276

\_\_\_\_\_

Subject: 25611

CAAGGGTGCAACAAACGTTCCAGTGGGACAGATACTGGAGATCCTCAAGTAAGCCCC 25670

**Query: 277 TCGGTGACTGGGCTGCTGGCACCATGGACCCAGAGAG 313**

|||||  
**Subject: 25671 TCGGTGACTGGGCTGCTGGCACCATGGACCCAGGTAG 25707**

FIGURE 22

23/23

Query: 304  
ACCCAGAGAGCAGTATCTTTATTGAGGATGCCATTAAGTATTTCAAGGAAAAAGTGAGCA 363  
|||||  
Sbjct: 29886  
AACTAGAGAGCAGTATCTTTATTGAGGATGCCATTAAGTATTTCAAGGAAAAAGTGAGCA 29945

Query: 364  
CACAGAATCTGCTACTCCTGCTGACTGATAATGAGGCCTGGAACGGATTTCGTGGCTGCTG 423  
|||||  
Sbjct: 29946  
CACAGAATCTGCTACTCCTGCTGACTGATAATGAGGCCTGGAACGGATTTCGTGGCTGCTG 30005

Query: 424 CTGAACTGCCCAGGAATG 441  
|||||  
Sbjct: 30006 CTGAACTGCCCAGGTAAG 30023

Query: 430  
TGCCCAGGAATGAGGCAGATGAGCTCCGTAAAGCTCTGGACAACCTTGCAAGACAAATGA 489  
TG  
CAGGAATGAGGCAGATGAGCTCCGTAAAGCTCTGGACAACCTTGCAAGACAAATGA  
Sbjct: 33440  
TGTGCAGGAATGAGGCAGATGAGCTCCGTAAAGCTCTGGACAACCTTGCAAGACAAATGA 33499

Query: 490  
TCATGAAAGACAAAACTGGCAGGATAAAGGCCAGCAGTACAGAACTGGTTTCTGAAA 549  
TCATGAAAGACAAAACTGGCAGGATAAAGGCCAGCAGTACAGAACTGGTTTCTGAAA  
Sbjct: 33500  
TCATGAAAGACAAAACTGGCAGGATAAAGGCCAGCAGTACAGAACTGGTTTCTGAAA - 33558

Query: 550  
GAGTTTCCTCGGGTGAAAAAGTAAGCTTGAGGATAACATAAGAAAGCTTCCGTGCCCTTG 609  
GAGTTTCCTCGG TGAAA GT AGCTTGAGGATAACATAAGAA GCT  
CCGTGCCCTTG  
Sbjct: 33559 GAGTTTCCTCGGTTGAAA-GTGAGCTTGAGGATAACATAAGAAAGGCT-  
CCGTGCCCTTG 33616

Query: 610 CAANATGGG 618  
CA ATGGG  
Sbjct: 33617 CA-GATGGG 33624

FIGURE 22, CONTINUED